

## EXPER. VIII.

I found moreover that when Light goes out of Air through several contiguous refracting Mediums as through Water and Glass, and thence goes out again into Air, whether the refracting superficies be parallel or inclined to one another, that Light as often as by contrary refractions 'tis so corrected, that it emergeth in lines parallel to those in which it was incident, continues ever after to be white. But if the emergent rays be inclined to the incident, the whiteness of the emerging Light will by degrees in passing on from the place of emergence, become tinged in its edges with Colours. This I tryed by refracting Light with Prisms of Glass within a prismatick Vessel of Water. Now those Colours argue a diverging and separation of the heterogeneous rays from one another by means of their unequal refractions, as in what follows will more fully appear. And, on the contrary, the permanent whiteness argues, that in like incidences of the rays there is no such separation of the emerging rays, and by consequence no inequality of their whole refractions. Whence I seem to gether the two following Theorems.

1. The Excesses of the fines of refraction of several sorts of rays above their common fine of incidence when the refractions are made out of divers denser mediums immediately into one and the same rarer medium, are to one another in a given Proportion.

2. The

2. The Proportion of refraction of one medium into another the fine of incidence of the first medium into a portion of the fine of incidence out of that third medium.

By the first Theorem every sort made out of by having the refraction for instance, if the fine of incidence of Rain-water be to its fine of incidence of Air as 27, 27 $\frac{1}{2}$ , 27 $\frac{1}{3}$ , 27 $\frac{1}{4}$ , that the fine of incidence to their fine of refraction be three to four, and is to 3 the fine of Excesses above-me 81 will be the common water into Air, to mentioned Excesses the refractions 108 $\frac{1}{2}$ , 109.

By the latter Theorem of refraction of one medium into another the refractions out of Air be to its fine of incidence of the